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David G. Owen

*University of South Carolina School of Law*

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# RISK-UTILITY BALANCING IN DESIGN DEFECT CASES

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David G. Owen \*

*Design defectiveness is generally defined in terms of a risk-utility balance, the form of liability test adopted by the Restatement (Third) of Torts: Products Liability. However, confusion abounds in how courts formulate such balancing tests. A national survey of recent appellate court decisions reveals that courts generally define the balance in terms of the product's risks and utility, a formulation which appears to call for weighing the product's global costs against the product's global benefits. So defined, the design defect test is incorrect. What appellate courts mean for juries to decide, and what juries ordinarily do in fact decide, is the much more narrow "micro-balance" of the costs and benefits of the particular design feature that the plaintiff claims the manufacturer ought to have adopted. If courts reformulate the test of design defectiveness in this more precise and focused manner, design defect litigation should be improved.*

## INTRODUCTION

Deep within the interior of design defect jurisprudence, balancing bedlam prevails. Courts and commentators increasingly comprehend that ascertaining design defectiveness in products liability cases requires some kind of "risk-utility" balancing,<sup>1</sup> but neither courts nor commentators seem to understand just what that balance should entail. In case after case, courts uphold verdicts rooted in risk-utility proof and argument—on the balance of costs and benefits of improving the safety of a product's design—without inquiring closely into

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\* Byrnes Scholar and Professor of Tort Law, University of South Carolina School of Law. B.S. 1967, University of Pennsylvania; J.D. 1971, University of Pennsylvania Law School. Thanks to Mark Behrens, David Fischer, Mark Geistfeld, Stephen Gilles, Mark Grady, Robert Keeton, Joseph Page, Paul Rheingold, Jack Sabatino, Gary Schwartz, Larry Stewart, John Thomas, and Malcolm Wheeler for their comments on earlier drafts, to Pat Hubbard for not commenting on any draft, and to Leigh Goddard, Anne Kearse, Mundi Long, and Stephen Samuels for their research and editorial assistance.

1. See, e.g., *Sperry-New Holland v. Prestage*, 617 So. 2d 248, 255 (Miss. 1993) (stating that risk-utility has become the "trend in most federal and state jurisdictions" and adopting the risk-utility standard for design defect cases).

how to formulate the balance properly. And when most courts and commentators do attempt to define the balance, to state with some precision just what should be balanced against what, they quickly lose themselves, conceptually and linguistically, in a tangled thicket of "risks" and "benefits" and "costs" and "utility."

Just what *should* be balanced against what in design defect cases? Should all the risks of the manufacturer's chosen product design, viewed in the aggregate, be balanced against all of that same design's aggregate utility? Or is the proper balance between the aggregate risks and utility of the alternatively designed product that the plaintiff claims ought to have been adopted? Does the true balance require a comparison of the risks and utility of the chosen design, on the one side, against the risks and benefits of the proposed alternative design, on the other? Or should courts more narrowly balance the incremental risks (or costs) and utility (or benefits) resulting solely from altering the design in the particular manner proposed by plaintiff? Balancing questions like these penetrate to the very heart of design defectiveness decisions, but few courts or commentators have attempted to unravel the mysteries that lie within the various formulations of the balancing equation.<sup>2</sup>

The new *Restatement (Third) of Torts: Products Liability* acknowledges the central role of the risk-utility balancing enterprise in determining whether a particular design is defective,<sup>3</sup> and it structures the black letter definition of design defectiveness around whether, on balance, some safer alternative design was better than the manufacturer's chosen design.<sup>4</sup>

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2. W. Kip Viscusi is a notable exception. See W. KIP VISCUSI, *REFORMING PRODUCTS LIABILITY* 62-86 (1991) (critically examining design defectiveness formulations); W. Kip Viscusi, *Wading Through the Muddle of Risk-Utility Analysis*, 39 AM. U. L. REV. 573, 574 (1990) (same).

For an elaboration of many points in this Article, see David G. Owen, *Toward a Proper Test for Design Defectiveness: "Micro-Balancing" Costs and Benefits*, 75 TEX. L. REV. (forthcoming May 1997).

3. See RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmts. a, b, c, d, e, & f (Proposed Final Draft, 1997) [hereinafter Proposed Final Draft] (explaining the liability rule to be a risk-utility balancing test).

4. See *id.* § 2(b) ("A product . . . is defective in design when the foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design . . . and the omission of the alternative design renders the product not reasonably safe."). For a suggestion that this standard supports an inquiry into whether the plaintiff's proposed design was on balance better than the defendant's chosen design, see *id.* § 2 cmt. f. Even if the proposed design is on balance better than the chosen design, however, the chosen design is not thereby automatically rendered defective, for "a number of variations in the design of a given product may meet the test

Yet the new *Restatement* waffles, like most courts and commentators, on precisely how a proper balancing test for design defect cases should be formulated. The *Restatement* states broadly that the risks and benefits of the chosen and alternative designs should somehow be compared,<sup>5</sup> but it adopts the popular "grab-bag" approach, throwing into the balance nearly everything in sight.<sup>6</sup>

This Article argues that design defectiveness is properly ascertained by a narrow balance of the costs of changing the chosen design, as plaintiff claims was necessary, against the resulting safety benefits of so changing the design. A liability standard may be formulated in such terms in a manner consistent both with the new *Restatement's* definition of design defectiveness and with how such cases actually are adjudicated. The Article first explores the definitional bedlam in risk-utility formulations revealed by a survey of recent cases. It then turns to balancing theory to uncover the basic principles from which a proper risk-utility balance may be constructed, and then fashions two versions of a risk-utility balancing test from such principles. The Article concludes that proper risk-utility balancing in design defect cases requires courts to "micro-balance" the costs and benefits of altering the chosen design in the manner proposed by the plaintiff. An Appendix compiles

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in Subsection b." *Id.* It is possible, in other words, for there to be multiple reasonably safe products. See generally David G. Owen, *Defectiveness Restated: Exploding the "Strict" Products Liability Myth*, 1996 U. ILL. L. REV. 743, 770-72.

5. Among a "broad range" of possibly pertinent factors, the Reporters include the "relative advantages and disadvantages of the product as designed and as it alternatively could have been designed." Proposed Final Draft, *supra* note 3, § 2 cmt. f.

6. The *Restatement (Third)* section 2 comment f provides in part:

A broad range of factors may be considered in determining whether an alternative design is reasonable and whether its omission renders a product not reasonably safe. The factors include, among others, the magnitude and the probability of the foreseeable risks of harm, the instructions and warnings accompanying the product, and the nature and strength of consumer expectations regarding the product. The relative advantages and disadvantages of the product as designed and as it alternatively could have been designed may also be considered. Thus, the likely effects of the alternative design on production costs; the effects of the alternative design on product longevity, maintenance, repair, and esthetics; and the range of consumer choice among products are factors that may be taken into account. Plaintiff is not necessarily required to introduce proof on all of these factors; their relevance, and the relevance of other factors, will vary from case to case.

*Id.* § 2 cmt. f.

recent examples of risk-utility balancing formulations from states which use this form of definition for design defectiveness.

## I. BALANCING FORMULATIONS IN THE COURTS

Confusion about what properly should be balanced against what abounds in the judicial opinions. Courts variously describe the balance, sometimes one way, sometimes another.<sup>7</sup> In an effort to determine if there is a clearly accepted definition of the risk-utility test, some standard manner in which the balancing test is formulated in the case law, I conducted a national survey of design defect balancing tests defined in judicial decisions over the last several years.<sup>8</sup>

The survey revealed several important insights into how the courts are defining the risk-utility balance. First, there is no single clearly accepted view as to how the design defect balancing test should be described or formulated. A related finding is that there is considerable variation in how the balancing test is formulated among the states, among decisions within the same state, and often even within the same judicial opinion.<sup>9</sup> Another finding is that courts today quite typically cobble together a variety of separate and often conflicting formulations of balancing tests borrowed, without analysis, from earlier opinions.<sup>10</sup> Further, many courts acknowledge that a variety of factors should be balanced but neither discriminate between the various factors nor explain how they should be balanced or otherwise interrelate.<sup>11</sup> Finally, and most importantly, a disturbing

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7. Among many examples, consider *Nichols v. Union Underwear Co.*, 602 S.W.2d 429 (Ky. 1980). In his concurring opinion, Justice Lukowsky defined the "social utility standard—risk versus benefit" in four separate formulations, which may be summarized as follows: (1) a balance of the chosen design's utility to the public ("benefits") against the chosen design's risks to the public, (2) a balance of the chosen design's risk to the public against the alternative design's cost plus any diminished utility to the public, (3) a balance of the chosen design's risks to the plaintiff against the chosen design's utility to the public, and (4) a balance of the chosen design's risk to the public against the chosen design's utility to the public. *See id.* at 434 (Lukowsky, J., concurring).

8. For the survey results, see *infra* app.

9. *See infra* app.; *supra* note 7 and accompanying text.

10. *See, e.g.*, *Denny v. Ford Motor Co.*, 662 N.E.2d 730, 735–36 (N.Y. 1995) (finding support for New York's risk-balancing test in numerous cases and commentaries).

11. This manner of addressing the factors might be called the "grab-bag" approach. *Cf. supra* note 6 and accompanying text. For perhaps the classic example of this approach, see *Banks v. ICI Americas, Inc.*, 450 S.E.2d 671, 675 & n.6 (Ga. 1994), which

trend toward a global form of risk-utility evaluation of a product's overall balance of advantages and risk is discernable in judicial opinions. Each of these findings reflects fundamental confusion as to the precise nature and components of a proper cost-benefit analysis for use in design defect cases.

Appellate courts increasingly appear to be adopting a global form of risk-utility evaluation of design defectiveness, a test which might be described as requiring "macro-balancing." Under this approach, the defect question is framed in terms of a comparison between a product's entire bundle of risks and the product's entire bundle of utility. That is, the balance of good and bad in a product is examined in the aggregate. If the product's aggregate risk exceeds its aggregate social utility, it is defective; if its aggregate utility exceeds its aggregate risk, the product is nondefective.<sup>12</sup> Although courts rarely endorse this form of global balancing explicitly,<sup>13</sup> the manner in which

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provides a "non-exhaustive" list of more than 30 factors—"no finite set of factors can be considered comprehensive or applicable under every factual circumstance, since such matters must necessarily vary according to the unique facts of each case." *Id.*; see also *Armentrout v. FMC Corp.*, 842 P.2d 175, 184 (Colo. 1992) (listing Dean Wade's famous seven factors adopted in *Ortho Pharmaceutical Corp. v. Heath*, 722 P.2d 410 (Colo. 1986), and noting that the list is "not exclusive, but merely illustrative of factors which may assist in determining whether or not a design is unreasonably dangerous. Depending on the circumstances of each case, flexibility is necessary to decide which factors are to be applied, and the list of [Wade factors] may be expanded or contracted as needed"); see *infra* app. at n.34 and accompanying text (quoting the Wade factors).

12. The widespread notion that a product's aggregate social utility and aggregate risk may have some relevance to design defectiveness may find its roots in two of Dean Wade's famous seven factors: "(1) The usefulness and desirability of the product—its utility to the user and to the public as a whole"; and "(2) The safety aspects of the product—the likelihood that it will cause injury, and the probable seriousness of the injury." John W. Wade, *On the Nature of Strict Tort Liability for Products*, 44 MISS. L.J. 825, 837 (1973). The Wade factors have become embedded in the design defect jurisprudence of many states, although courts generally do not use the factors as a formal liability standard. See, e.g., *Armentrout*, 842 P.2d at 184 (listing but not applying summary of Wade factors as reformulated in an earlier case); *Denny*, 662 N.E.2d at 735 (same). See generally Viscusi, *supra* note 2, at 574 (examining the difficulty of applying the Wade factors to design defect risk-utility decisionmaking).

13. For one court's explicit endorsement of such a global risk-utility approach, and its explanation of how it differs from the more narrow micro-balance approach, see *Beshada v. Johns-Manville Prod. Corp.*, 447 A.2d 539 (N.J. 1982). The court reasoned that

we can distinguish two tests for determining whether a product is safe: (1) does its utility outweigh its risk? and (2) if so, has that risk been reduced to the greatest extent possible consistent with the product's utility? The first question looks to the product as it was in fact marketed. If that product caused more harm than good, it was not reasonably fit for its intended purposes. We can therefore impose strict liability for the injuries it caused without having to determine whether it could have been rendered safer. The second aspect of strict liability,

they generally describe the risk-utility test strongly suggests this interpretation. Thus, a global balance appears explicitly denoted when a court refers to "balancing the *overall* risk and utility of a product,"<sup>14</sup> and a global balance appears implicitly contemplated when a court states that design defect determinations require "balancing the utility of the product against the risks involved in its use."<sup>15</sup> It is this latter type of macro-balance formulation that courts<sup>16</sup> increasingly have adopted as a definitional standard of defectiveness in design defect cases.<sup>17</sup>

Defining design defectiveness in macro-balance terms poses a variety of problems,<sup>18</sup> foremost of which is that this form of definition fails to state the issue as it is ordinarily litigated in courtrooms across the nation. This situation presents a fundamental jurisprudential problem because the liability standard announced by the appellate courts contravenes the law as it actually is applied. The issue generally litigated is not whether an accident-producing product was globally good or bad for society.<sup>19</sup> Instead, the question typically at issue is whether the manufacturer might have avoided the accident (and possibly

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however, requires that the risk from the product be reduced to the greatest extent possible without hindering its utility. Whether or not the product passes the initial risk-utility test, it is not reasonably safe if the same product could have been made or marketed more safely.

*Id.* at 545 (citation omitted).

14. *Penick v. Christensen*, 912 S.W.2d 276, 283 (Tex. App. 1995) (emphasis added); see also *Denny*, 662 N.E.2d at 736 (ascertaining defectiveness "requires a weighing of the product's dangers against its over-all advantages").

15. *Caterpillar, Inc. v. Shears*, 911 S.W.2d 379, 383-84 (Tex. 1995).

16. Commentators have not been immune from this disease, also sometimes speaking loosely in macro-balance terms. See, e.g., W. PAGE KEETON ET AL., PROSSER & KEETON ON THE LAW OF TORTS § 99, at 699 (5th ed. 1984) ("Under [the 'danger-utility test'] approach, a product is defective as designed if, but only if, the magnitude of the danger outweighs the utility of the product.").

17. See *Banks v. ICI Ams., Inc.*, 450 S.E.2d 671, 673 (Ga. 1994) (finding that an "exhaustive review of foreign jurisdictions and learned treatises" reveals "a general consensus regarding the utilization in design defect cases of a balancing test whereby the risks inherent in a product design are weighed against the utility or benefit derived from the product").

For examples of courts that have adopted this test, see *infra* app.

18. These problems are examined in Owen, *supra* note 2.

19. Whether courts should abstain altogether from attempting to adjudicate most products liability cases on this kind of global basis involves the thorny and nascent issue of category liability for generic product risks, a topic that commentators are only beginning to explore. See, e.g., DAVID G. OWEN ET AL., PRODUCTS LIABILITY AND SAFETY—CASES AND MATERIALS 440-71 (3d ed. 1996) (addressing product category and generic risk liability); Symposium, *Generic Products Liability*, 72 CHI.-KENT L. REV. (forthcoming 1997); see also *infra* note 30. Although theoretically intriguing, cases raising this issue are rarely litigated and can easily be addressed on an ad hoc basis.

others) by changing the product's design in some manner that was relatively inexpensive, that did not unduly diminish the product's usefulness, and that did not introduce excessive new dangers which the chosen design did not possess.<sup>20</sup> These litigated issues also involve a balance, of course, but one much narrower than that contemplated by the macro-balance formulations often articulated by appellate courts in their design defect risk-utility definitions.

To distinguish the narrow courtroom balance from its mischievous big sister macro-balance, one might label the former a "micro-balance." The micro-balance scales care not about the overall risk, utility, or quality of a product but seek only to evaluate the costs and benefits of adopting the particular alternative design feature proposed by plaintiff to determine whether its omission may be viewed as having made the product defective.<sup>21</sup> Thus, *micro*-balancing—not macro-balancing—is revealed to be the form of risk-utility balancing properly used by lawyers and trial judges in the litigation of design defect cases.<sup>22</sup>

## II. BALANCING THEORY: CONSTRUCTING A PROPER BALANCE FOR DESIGN DEFECT CASES

In addition to its empirical validation in trial courtrooms, the micro-balance approach to design defectiveness is also firmly grounded in tort law theory. Tips on balancing from Learned Hand, Richard Posner, Mark Grady, and Stephen Gilles all point the way to this type of narrow formulation of the balancing enterprise. One may begin by examining Judge Learned Hand's celebrated negligence formula in *United States v. Carroll Towing Co.*,<sup>23</sup> by which negligence (N) is suggested if

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20. See RICHARD J. HEAFEY & DON M. KENNEDY, *PRODUCT LIABILITY: WINNING STRATEGIES AND TECHNIQUES* §§ 4.04, 4.05 (1994) (describing plaintiff strategies in design defect cases); Paul Rheingold, *The Risk/Utility Test in Product Cases*, TRIAL LAW. Q., Summer/Fall 1987, at 49–51 (same).

21. In the terms of the products liability *Restatement*, the test is whether the omission of "a reasonable alternative design . . . renders the product not reasonably safe." Proposed Final Draft, *supra* note 3, § 2(b).

22. See, e.g., *Anderson v. Weslo, Inc.*, 906 P.2d 336, 339–42 (Wash. Ct. App. 1995) (discussing whether trampolines could be redesigned but not whether trampolines are valuable).

23. 159 F.2d 169, 173 (2d Cir. 1947).



the defendant's burden of precaution (B) was less on balance than the magnitude and likelihood of harm (the probability, P, of an accident occurring times the likely magnitude of the loss, L); thus,  $B < P \times L \rightarrow N$ . The importance of the Hand formulation to negligence theory generally, and to products liability law more specifically, is widely accepted.<sup>24</sup>

The Hand formula does not base liability on the global desirability of the activity. Instead, it focuses narrowly upon the advisability of taking hypothetical precautions (B) that the defendant did not take. As Richard Posner explained some time ago, the Hand formula quite simply balances the cost ("burden") of accident avoidance against the expected cost of accidents that could be so avoided (measured by their probability or frequency and magnitude).<sup>25</sup>

The balancing focus, therefore, is *not* on the activity or product *as a whole*; instead the inquiry should be limited to an evaluation of the costs and benefits of the "untaken precaution," to use Mark Grady's helpful term.<sup>26</sup> Thus, the proper risk-utility inquiry involves balancing the various costs of a particular accident prevention measure against the particular resulting safety benefits, as Stephen Gilles has well explained in a recent analysis of the Hand approach.<sup>27</sup> One should conclude, therefore, that sound risk-utility balancing involves a micro-balance of the costs and benefits of the untaken precaution that plaintiff claims was warranted in the circumstances.<sup>28</sup>

Now that the general enterprise of risk-utility balancing is understood to be properly based on micro-balance principles, the question becomes how to formulate a liability standard that reflects such principles for use in design defect cases. It is helpful here to restate the particular issue as it actually is litigated in such cases: whether the manufacturer might have avoided the accident by adopting a relatively inexpensive design alteration which would not have unduly reduced the product's

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24. See, e.g., Stephen G. Gilles, *The Invisible Hand Formula*, 80 VA. L. REV. 1015, 1025 (1994); Owen, *supra* note 4, at 753-61.

25. See Richard A. Posner, *A Theory of Negligence*, 1 J. LEGAL STUD. 29, 32-34 (1972).

26. Mark F. Grady, *Untaken Precautions*, 18 J. LEGAL STUD. 139 (1989).

27. See generally Gilles, *supra* note 24.

28. This suggests that "cost-benefit," rather than "risk-utility," is a better label for a liability standard based on such a balance. See generally Owen, *supra* note 2 (explaining this labeling preference).

usefulness or safety in the process. Although there are a variety of ways in which these ideas may be combined in a liability standard, one way to formulate such a test is as follows:

A product is defective in design if the safety benefits from altering the design as proposed by plaintiff were foreseeably greater than the resulting costs, including any diminished usefulness or diminished safety.

This formulation of the risk-utility standard includes each of the key factors that generally are relevant in design defect cases:

- (1) the safety benefits that would result from the plaintiff's proposed design alteration—generally the centerpiece of plaintiff's proof and argument in such cases;
- (2) foreseeability—an important limiting factor even in the "strict" liability context;<sup>29</sup> and
- (3) the expected costs of the proposed design alteration—usually increased production costs, but sometimes also the "costs" of diminished usefulness and injuries to other persons from risks newly introduced by the design alteration.

Embracing each of the major factors generally relevant to the design defect issue, the liability standard as formulated above should work well as a general liability test in most such cases. No doubt, however, certain types of cases will present certain special problems that may be captured only awkwardly by a test that is formulated so explicitly in cost-benefit terms. Additional factors might be added explicitly to the standard, but this would push the test down the slippery slope of factor expansion until it landed with a splat in a multifarious "grab-bag" pile of particularized balancing factors that would serve more to confound than to clarify the central balancing issue.

Better than heaping sundry particularized factors into the general risk-utility test, courts instead should apply the conventional common law case-by-case evolutionary approach to new situations and simply broaden or create exceptions to

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29. See Proposed Final Draft, *supra* note 3, § 2(b) & cmts. a, d, f, & m.

the standard for special situations, as fairness and circumstances in particular cases may warrant. It is possible, however, to broaden the test explicitly in a manner that would allow virtually any case to fit the preexisting standard, an approach which some courts may prefer. Such a broadened micro-balance risk-utility test might be phrased as follows:

A product is defective in design if it was not designed with reasonable safety, such that the safety benefits from altering the design as proposed by plaintiff were foreseeably greater than the resulting costs, including any diminished usefulness or diminished safety.

Including a "reasonable safety" provision in the liability standard both strengthens and weakens the test. Its strength lies in the inclusion of a general and vague "reasonable safety" catchall provision, a safe harbor which explicitly may embrace almost any situation. Such a "reasonable safety" provision would allow judges and jurors to circumvent the specific and more rigid cost-benefit factors in cases where fairness and justice so require.<sup>30</sup> Yet the very generality of this catchall provision also constitutes its weakness: the vagueness that would permit its enlightened use in some cases by conscientious judges and jurors would also permit its abuse in other cases by judges and juries able to hide perverse results in the mists of the standard's vagueness and generality.

Regardless of the form of the standard, whether it be drawn specifically or with a general safe harbor, defining liability in micro-balance terms should be a vast improvement over the macro-balance formulations that presently contaminate the design defect jurisprudence of so many states. Indeed, the precise formulation of such a liability test is less important than is the adoption of some form of micro-balance standard as the basis for defining design defectiveness.<sup>31</sup> Once courts and

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30. Thus, the "reasonable safety" formulation would provide an explicit basis for allowing recovery for generic product defects in certain narrow cases where a very dangerous product with very low social utility would plainly flunk a risk-utility macro-balance test. The new classic example of such a product is a novelty exploding cigar which can cause serious injuries. See Proposed Final Draft, *supra* note 3, § 2 cmt. e & illus. 5. But a court adopting the narrower formulation of the standard as a general test for design defectiveness could simply carve an exception for this type of case. This is the approach taken by the new *Restatement*. See *id.* § 2 cmts. d & e.

31. In his article in this Symposium, Judge Keeton proposes jury instructions that nicely capture the essence of the micro-balance concept. See Robert E. Keeton, *Warning Defect: Origins, Policies, and Directions*, 30 U. MICH. J.L. REFORM 367 (1997).

commentators discern the importance of defining the risk-utility balancing test in proper micro-balance terms, one may fairly expect to observe improvements in how design defect cases are processed and resolved.

### CONCLUSION

Bedlam has prevailed too long in the definitions of risk-utility balancing found in design defect cases, as a survey of recent appellate opinions across the nation reveals. By posing the liability issue in global terms of whether the product's aggregate risks exceed the product's aggregate utility, many courts have linguistically lost their way in a frightful jungle of macro-balancing terminology that seriously misstates the issues actually and properly litigated in such cases. The true issues in design defect cases surround the costs and benefits of altering the design in a manner that the plaintiff claims would have prevented the harm. A focused micro-balance of these more narrow issues forms the basis for a risk-utility liability standard that should help to clarify the adjudication and review of design defectiveness determinations.

## APPENDIX

## DESIGN DEFECT BALANCING TESTS BY STATE

The following is a sample of design defect balancing tests from states which use such tests (whether the underlying liability theory be negligence, implied warranty, or strict liability in tort). The results derive from a series of computer searches conducted in 1996 of the products liability case law of every state and the District of Columbia.<sup>32</sup> The search focused on recent opinions in which the court explicitly indicated what should be balanced against what in ascertaining design defectiveness. Thus, the survey was not designed to examine exhaustively the law of every state<sup>33</sup> nor to reveal the current or "true" definition of design defectiveness in each such state. Many of the opinions surveyed contain protracted discussions of design defectiveness, so the excerpts here are necessarily selective and incomplete. The objective of this compilation is to provide a portrait of the types of design defect balancing definitions currently used in the nation's appellate courts.

In defining the risk-utility balance, many of the opinions surveyed referenced in some manner the following widely cited list of seven liability factors formulated by Dean Wade when strict products liability in tort was in its infancy:

- (1) The usefulness and desirability of the product—its utility to the user and to the public as a whole.
- (2) The safety aspects of the product—the likelihood that it will cause injury, and the probable seriousness of the injury.
- (3) The availability of a substitute product which would meet the same need and not be as unsafe.

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32. The searches sought cases decided in recent years which used some combination of the terms "design," "defect!," "risk(s)," "utility," "cost(s)," and "benefit(s)" in close proximity. Below is a sampling of cases that provided explicit balancing formulations as a means of defining design defectiveness, whether called "risk-utility," "risk-benefit," "cost-benefit," or labeled some other way or not at all.

33. For such a study, see John F. Vargo, *The Emperor's New Clothes: The American Law Institute Adorns a "New Cloth" for Section 402A Products Liability Design Defects—A Survey of the States Reveals a Different Weave*, 26 U. MEM. L. REV. 493 (1996). A number of products liability reform statutes define design defectiveness in balancing terms, and the Vargo study canvassed such legislation. By contrast, our computer study picked up such statutory provisions only indirectly by finding judicial opinions which interpreted such legislation.

(4) The manufacturer's ability to eliminate the unsafe character of the product without impairing its usefulness or making it too expensive to maintain its utility.

(5) The user's ability to avoid danger by the exercise of care in the use of the product.

(6) The user's anticipated awareness of the dangers inherent in the product and their avoidability, because of general public knowledge of the obvious condition of the product, or of the existence of suitable warnings or instructions.

(7) The feasibility, on the part of the manufacturer, of spreading the loss by setting the price of the product or carrying liability insurance.<sup>34</sup>

### I. GENERAL PRODUCT CASES

**California**—A product is not defective in design if the design benefits “‘outweigh the risk of danger inherent in such design,’ [a] determination involv[ing] technical issues of feasibility, cost, practicality, risk, and benefit which are ‘impossible’ to avoid. In such cases, the jury *must* consider the manufacturer’s evidence of competing design considerations . . . .” *Soule v. General Motors Corp.*, 882 P.2d 298, 308 (Cal. 1994) (citations omitted) (quoting *Barker v. Lull Eng’g Co.*, 573 P.2d 443, 454 (Cal. 1978)).

#### **Colorado**—

“A product is unreasonably dangerous because of a defect in its design if it creates a risk of harm to persons which is not outweighed by the benefits to be achieved from such design” . . . . In order to determine whether the risks outweigh the benefits of the product design, the jury must consider different interests, represented by certain factors such as the Wade factors.

*Armentrout v. FMC Corp.*, 842 P.2d 175, 182, 183–84 (Colo. 1992) (quoting with approval the standard jury instructions used in the lower court’s proceedings).

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34. Wade, *supra* note 12, at 837–38.

**District of Columbia**—To establish that a design is defective, “the plaintiff must ‘show the risks, costs and benefits of the product in question and alternative designs,’ and ‘that the magnitude of the danger from the product outweighed the costs of avoiding the danger.’” *Warner Fruehauf Trailer Co. v. Boston*, 654 A.2d 1272, 1276 (D.C. 1995) (quoting *Hull v. Easton Corp.*, 825 F.2d 448, 453 (D.C. Cir. 1987)).

**Georgia**—The Supreme Court recently found upon

an exhaustive review of foreign jurisdictions and learned treatises . . . a general consensus regarding the utilization in design defect cases of a balancing test whereby the risks inherent in a product design are weighed against the utility or benefit derived from the product. This risk-utility analysis incorporates the concept of “reasonableness” . . . given the probability and seriousness of the risk posed by the design, the usefulness of the product in that condition, and the burden on the manufacturer to take the necessary steps to eliminate the risk.

*Banks v. ICI Ams., Inc.*, 450 S.E.2d 671, 673, 675 (Ga. 1994) (citations omitted).

**Hawaii**—A negligent design claim requires proof “that the manufacturer was negligent in not taking reasonable measures in designing its product to protect against a foreseeable risk of injury” considering such factors as

(1) balancing the likelihood and gravity of the potential harm against the burden of precautions which would effectively avoid the harm; (2) the style, type, and particular purpose of the product; (3) the cost of an alternative design, since the product’s marketability may be adversely affected by a cost factor that greatly outweighs the added safety of the product; and (4) the price of the product itself.

*Wagatsuma v. Patch*, 879 P.2d 572, 583–84 (Haw. Ct. App. 1994).

A strict liability design claim may be established either by the consumer expectations or risk-utility test. The risk-utility test requires determining whether “the benefits of the challenged design outweigh the risk of danger inherent in such

design" considering the balance of the Wade factors. *Id.* (citing *Ontai v. Straub Clinic & Hosp. Inc.*, 659 P.2d 734, 739-40 (Haw. 1983)).

### **Kansas—**

Generally, evidence of a safer alternative design seems to lend itself to a risk-benefit analysis. The risk-benefit analysis looks in part to whether there is a safer feasible alternative, whether such an alternative is cost effective, and whether there are risks associated with the alternative design. . . . While evidence of a safer alternative design is not required in all cases, there must be a specific claim concerning what aspect of the design was defective for a plaintiff to prevail on a strict liability design defect claim.

*Jenkins v. Amchen Prods.*, 886 P.2d 869, 890 (Kan. 1994) (citing *Lester v. Magic Chef, Inc.*, 641 P.2d 353, 360 (Kan. 1982)), *cert. denied*, 116 S. Ct. 80 (1995).

**Kentucky**—A product is defective if its risk is such "that an ordinarily prudent company engaged [in the business], being fully aware of the risk, would not have put it on the market . . . ." *Nichols v. Union Underwear Co.*, 602 S.W.2d 429, 433 (Ky. 1980).

Compare Justice Lukowsky's concurring opinion in which he variously defines the "social utility standard—risk versus benefit" in formulations which may be summarized as follows: (1) a balance of the chosen design's utility (benefits) to the public against the chosen design's risks to the public; (2) a balance of the chosen design's risk to the public against the alternative design's cost plus any diminished utility to the public; (3) a balance of the chosen design's risks to the plaintiff against the chosen design's utility to the public; and (4) a balance of the chosen design's risk to the public against the chosen design's utility to the public. *See id.* at 434 (Lukowsky, J., concurring).

**Maine**—"To determine whether a product is defectively dangerous, we balance the danger presented by the product against its utility." *Guiggey v. Bombardier*, 615 A.2d 1169, 1172 (Me. 1992).



**Maryland**—Determining design defectiveness “involves balancing ‘the utility of the design and . . . [the Wade] factors against the magnitude of that risk.’ ” *Klein v. Sears, Roebuck & Co.*, 608 A.2d 1276, 1280 (Md. Ct. Spec. App. 1992) (quoting *Phipps v. General Motors Corp.*, 363 A.2d 955, 961 (Md. 1976)).

**Massachusetts**—

In evaluating the adequacy of a product's design, the jury should consider, among other factors, the gravity of the danger posed by the challenged design, the likelihood that such danger would occur, the mechanical feasibility of a safer alternative design, the financial cost of an improved design, and the adverse consequences to the product and to the consumer that would result from an alternative design.

*Back v. Wickes Corp.*, 378 N.E.2d 964, 970 (Mass. 1978), *quoted in Caron v. General Motors Corp.*, 643 N.E.2d 471, 476 (Mass. App. Ct. 1994)).

**Michigan**—

In determining whether a defect exists, the trier of fact must balance the risk of harm occasioned by the design against the design's utility. A plaintiff has the burden of producing evidence of the magnitude of the risk posed by the design, alternatives to the design, or other factors concerning the unreasonableness of a design's risk.

*Haberkorn v. Chrysler Corp.*, 533 N.W.2d 373, 380 (Mich. Ct. App. 1995) (citations omitted).

**Minnesota**—A manufacturer is required to use reasonable care in design, determined by “‘a balancing of the likelihood of harm, and the gravity of harm if it happens, against the burden of the precaution which would be effective to avoid the harm.’” *Westbrock v. Marshalltown Mfg. Co.*, 473 N.W.2d 352, 356 (Minn. Ct. App. 1991) (quoting *Bilotta v. Kelley Co.*, 346 N.W.2d 616, 621 (Minn. 1984)).

**Mississippi**—A design is defective by “risk-utility analysis” if “the utility of the product is outweighed by the danger that the product creates. . . . In balancing a product's utility against the

risk of injury it creates, a trial court may find it helpful to refer to the seven [Wade factors]." *Sperry-New Holland v. Prestage*, 617 So. 2d 248, 254, 256 n.3 (Miss. 1993).

**Montana**—In a design defect alternative design claim, a "jury should be instructed to weigh various factors," including, as relevant, the reasonable probability of harm from the chosen and alternative designs, the feasibility of the alternative design, the relative costs of the two designs, and the time required to implement the alternative design. *Rix v. General Motors Corp.*, 723 P.2d 195, 201–02 (Mont. 1986) (following the UNIF. PROD. LIAB. ACT (1979)).

**New Hampshire**—In ascertaining design defectiveness,

courts should consider factors such as social utility and desirability. The utility of the product must be evaluated from the point of view of the public as a whole . . . . In weighing utility and desirability against danger, courts should also consider whether the risk of danger could have been reduced without significant impact on product effectiveness and manufacturing cost.

*Thibault v. Sears, Roebuck & Co.*, 395 A.2d 843, 846 (N.H. 1978) (citations omitted).

**New Jersey**—A product contained a design defect "if its risk outweighed its utility." *Roberts v. Rich Foods, Inc.*, 654 A.2d 1365, 1371 (N.J. 1995).

**New Mexico**—In determining design defectiveness, the jury is instructed to consider "'the ability to eliminate the risk without seriously impairing the usefulness of the product or making it unduly expensive.'" A product is defective "if a reasonable person would conclude that the magnitude of the scientifically perceived danger as it is proved to be at the time of the trial outweighed the benefit of the way the product was so designed and marketed." *Brooks v. Beech Aircraft Corp.*, 902 P.2d 54, 61–62 (N.M. 1995) (quoting uniform jury instruction and Page Keeton, *Product Liability and the Meaning of Defects*, 5 ST. MARY'S L.J. 30, 37–38 (1973)).

**New York**—The risk-utility standard applicable to design defect cases “demands an inquiry into such factors as” the Wade factors. “[A] weighing of the product’s benefits against its risks is an appropriate and necessary component of the liability assessment.” At the same time, the “strict products concept of a product that is ‘not reasonably safe’ requires a weighing of the product’s dangers against its over-all advantages.” *Denny v. Ford Motor Co.*, 662 N.E.2d 730, 735–36 (N.Y. 1995) (citing *Voss v. Black & Decker Mfg. Co.*, 450 N.E.2d 204 (N.Y. 1983)).

**Ohio**—Under the Ohio products liability reform statute, a product is defective in design if “the foreseeable risks associated with its design . . . exceeded the benefits associated with that design . . . .” The factors pertinent to the foreseeable risks include:

- (1) the nature and magnitude of the risks of harm; (2) the likely awareness of product users of those risks of harms; (3) the likelihood of harm in light of intended and reasonably foreseeable uses; and (4) the extent to which the design or formulation conformed to standards that were in effect when the product left the manufacturer. The factors to be considered when determining the benefits include: (1) the utility of the product; (2) the feasibility of using an alternative design or formulation; and (3) the nature and magnitude of foreseeable risks associated with an alternative design or formulation.

*Carrel v. Allied Prods. Corp.*, No. 9-94-24, 1995 WL 423388, at \*3 (Ohio Ct. App. July 11, 1995) (quoting OHIO REV. CODE ANN. § 2307.75(B), (C) (Anderson 1995), Ohio’s products liability reform statute).

**Oregon**—Determining whether a product is defectively designed requires “balancing the product’s utility against the magnitude of risk associated with its use. Where the utility of the product is great and any change of design necessary to alleviate the risk would adversely effect its utility, such a product is not defectively designed . . . .” *Hoyt v. Viteck, Inc.*, 894 P.2d 1225, 1231 (Or. Ct. App. 1995) (citing *Roach v. Kononen/Ford Motor Co.*, 525 P.2d 125 (Or. 1974); *Phillips v. Kimwood Mach. Co.*, 525 P.2d 1033 (Or. 1974)).

**Pennsylvania**—"[A] court must possess the qualities of both a social philosopher and a risk-utility economic analyst." The court in such cases "must balance 'the utility of the product against the seriousness and likelihood of the injury and the availability of precautions that . . . might prevent the injury.'" *Fitzpatrick v. Madonna*, 623 A.2d 322, 324 (Pa. Super. Ct. 1993) (quoting *Burch v. Sears, Roebuck & Co.*, 467 A.2d 615, 618 (Pa. Super. Ct. 1983)).

**South Carolina**—A product is defective "if the danger associated with the use of the product outweighs the utility of the product"—a balancing act determination which requires a consideration of numerous factors "including the usefulness and desirability of the product, the cost involved for added safety, the likelihood and potential seriousness of injury, and the obviousness of the danger." *Bragg v. Hi-Ranger*, 462 S.E.2d 321, 328 (S.C. Ct. App. 1995) (quoting *Claytor v. General Motors Corp.*, 286 S.E.2d 129, 132 (S.C. 1982)).

**Tennessee**—"The determination of whether a product is unreasonably dangerous turns on whether, balancing all the relevant factors, a prudent manufacturer would market the product despite its dangerous condition . . . consider[ing] usefulness, costs, seriousness and likelihood of potential harm, and the myriad of other factors" often collectively labeled a risk-utility test. *Ray v. BIC Corp.*, 925 S.W.2d 527, 532 (Tenn. 1996) (citing *Banks v. ICI Ams., Inc.*, 450 S.E.2d 671, 673 (Ga. 1994)).

**Texas**—"Determining if a design is unreasonably dangerous requires balancing the utility of the product against the risks involved in its use." *Caterpillar, Inc. v. Shears*, 911 S.W.2d 379, 383–84 (Tex. 1995) (citing *Turner v. General Motors Corp.*, 584 S.W.2d 844, 847 & n.1 (Tex. 1979)).

**Washington**—A product does not have a reasonably safe design if

the likelihood that the product would cause the claimant's harm or similar harms, and seriousness of those harms, outweighed the burden on the manufacturer to design a product that would have prevented those harms and the adverse effect that an alternative design . . . would have on the usefulness of the product . . . .

*Anderson v. Weslo, Inc.*, 906 P.2d 336, 340 (Wash. Ct. App. 1995) (summarizing and applying product liability reform statute design defect provision, WASH. REV. CODE § 7.72.030(1) (a) (1988)).

## II. PRESCRIPTION DRUG CASES

Following are the design defect balancing tests set forth in recent prescription drug cases revealed by the computer survey. Courts in such cases generally rely heavily upon comment k to section 402A of the *Restatement (Second) of Torts*, entitled "*Unavoidably unsafe products*."<sup>35</sup> This comment states that manufacturers of properly labeled prescription drugs should not be held strictly liable for side effects merely for providing the public with "an apparently useful and desirable product, attended with a known but apparently reasonable risk."<sup>36</sup> Whether manufacturers of prescription drugs should be subject to liability for design dangers is a difficult question that raises peculiar problems that may be inadequately addressed through the normal form of judicial cost-benefit analysis used for testing the design adequacy of other types of products.<sup>37</sup>

**Arkansas**—For comment k "to protect the designer of the product, the benefit of the product must outweigh the risk." *West v. Searle & Co.*, 806 S.W.2d 608, 612 (Ark. 1991).

**Florida**—"Any weighing of a product's risk against its benefit should consider the value of the benefit, the seriousness of the risk, and the likelihood of both. For comment k to apply, the product's benefits must outweigh its known risks as of the date the product is distributed." *Adams v. G.D. Searle & Co.*, 576 So. 2d 728, 733 (Fla. Dist. Ct. App. 1991).

**Idaho**—Comment k "contemplates a weighing of the benefit of the product against its risk. Obviously, for comment k to apply,

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35. See RESTATEMENT (SECOND) OF TORTS § 402A cmt. k (1965).

36. *Id.*

37. See Proposed Final Draft, *supra* note 3, § 8(c) & cmts. a & b; *Grundberg v. Upjohn Co.*, 813 P.2d 89 (Utah 1991); *Brown v. Superior Ct.*, 751 P.2d 470, 478 (Cal. 1988).

the benefit must outweigh the risk." *Toner v. Lederle Lab.*, 732 P.2d 297, 306 (Idaho 1987).

**Kansas**—A prescription drug is not defective in design if "the benefits it offered outweighed the risks its use posed in light of knowledge at the time . . . ." *Savina v. Sterling Drug, Inc.*, 795 P.2d 915, 927 (Kan. 1990).

**Oklahoma**—For comment k to protect a manufacturer, the "benefits of the product must outweigh its risks. 'This weighing process should consider the value of the benefit, the seriousness of the risk, and the likelihood of both.' Comment k . . . requires this risk-benefit analysis; the Comment speaks of a product's utility justifying its risks." *Tansy v. Dacomed Corp.*, 890 P.2d 881, 886 (Okla. 1994) (citations omitted).

**Rhode Island**—"In order to qualify for a comment-k exemption, the apparent benefits of the drug must exceed the apparent risks, given the scientific knowledge available when the drug was marketed." *Castrignano v. E.R. Squibb & Sons, Inc.*, 546 A.2d 775, 781 (R.I. 1988).

